

WASHINGTON STATE DEPARTMENT OF HEALTH OFFICE OF FOOD SAFETY AND SHELLFISH PROGRAMS

ANNUAL GROWING AREA REVIEW

PREPARED BY: Donald J. Melvin, Environmental Specialist

AREA: Burley Lagoon

YEAR ENDING: December 31, 2005

CLASSIFICATION: Approved, Restricted

ACTIVITIES IN THE GROWING AREA IN 2005:

Each sample station was sampled 12 times during 2005 in accordance with the NSSP systematic random sampling criteria. The conditionally approved portion of Burley Lagoon was closed a total of 64 days due to rainfall. The entire area was closed for 41 days due to high levels of PSP. Ninety-nine acres of the "restricted" portion of Burley lagoon was upgraded to "conditionally approved". Twenty-seven acres of the "approved" area was downgraded to "conditionally approved". A short term shellfish relay was done from Henderson Inlet into Burley Lagoon.

ANALYTICAL RESULTS OF WATER SAMPLES:

Table #1 summarizes the results of the most recent 30 water samples collected from the "approved" portion of the area. All "approved" area stations pass the water quality standard. Table #2 summarizes the results of the most recent 30 samples collected from the "conditionally approved" portion of the area. Table #2 shows that all stations pass the water quality standard however stations #336 and #342 are threatened and station #339 is of concern due to elevated bacteria levels. Individual sampling results for stations #336 and #342 are shown in Tables #3 and #4 respectively. The shaded rows in Tables #3 and #4 are the sampling events that were conducted when the area was closed due to rainfall. These sampling events are excluded from the Table 2 summary.

CHANGE IN ACTUAL POLLUTION SOURCES THAT IMPACT THE GROWING AREA:

We currently have no information indicating that the area has new sources of pollution.

CLASSIFICATION STATUS:

- ☐ Well within the classification standards
- ☐ Meets standards but some concerns
- ☒ Meets standards but threatened with a downgrade in classification
- ☐ Fails to meet classification standards

REMARKS AND RECOMMENDATIONS:

Current water quality data supports the current classifications in Burley Lagoon. However, Tables #3 and #4 show that some of the highest bacteria levels observed in Burley Lagoon are unrelated to rainfall conditions. Pollution source investigations should continue in the area.

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MANAGEMENT PLAN EVALUATION – BRIEFLY DESCRIBE THE FOLLOWING COMPONENTS:

1. Have all parties involved complied with the conditions in the management planYes
2. Has reporting been adequate to manage the conditional areaYes
3. Does the area consistently meet approved area criteria when it is open for harvestYes
4. Has a field inspection of critical pollution sources been conductedYes

TABLE 1**SUMMARY OF MARINE WATER DATA (SRS)**Growing Area: **BURLEY LAGOON**Classification: **Approved,Unclassified**From **05/08/2003** To **12/21/2005****FECAL COLIFORM ORGANISMS/100 ML**

Station Number	Classification	Number of Samples	Range	Geometric Mean	Est. 90th Percentile	Meets Std.
331	Approved	31	1.7 - 49.0	5.2	17.0	Yes
334	Approved	33	1.7 - 33.0	5.6	16.0	Yes
335	Approved	32	1.7 - 79.0	4.7	16.0	Yes
343	Approved	30	1.7 - 46.0	5.5	17.0	Yes
344	Approved	31	1.7 - 79.0	3.9	12.0	Yes
694	Unclassified	1	49.0 - 49.0	49.0	48.0	*N/A

All tides information is presented

The standard for approved shellfish growing waters is fecal coliform geometric mean not greater than 14 organisms/100 ml and an estimate of the 90th percentile not greater than 43 organisms/100 ml. The above table shows bacteriological results in relation to program standards.

* N/A - SRS criteria require a minimum of 30 samples from each station. *

TABLE 2**SUMMARY OF MARINE WATER DATA (SRS)**Growing Area: **BURLEY LAGOON**Classification: **Conditionally Approved**From **06/05/2002** To **10/20/2005****FECAL COLIFORM ORGANISMS/100 ML**Rainfall Information is **Day 0** for 4 days prior between **0.00** and **0.49**

Station Number	Classification	Number of Samples	Range	Geometric Mean	Est. 90th Percentile	Meets Std.
333	Conditionally Approved	30	1.7 - 33.0	5.5	19.0	Yes
336	Conditionally Approved	31	1.7 - 540.0	6.9	38.0	Yes
337	Conditionally Approved	31	1.7 - 49.0	6.0	19.0	Yes
338	Conditionally Approved	31	1.7 - 49.0	4.3	12.0	Yes
339	Conditionally Approved	31	1.7 - 49.0	7.5	26.0	Yes
340	Conditionally Approved	31	1.7 - 49.0	5.5	17.0	Yes
342	Conditionally Approved	30	1.7 - 240.0	6.4	31.0	Yes

All tides information is presented

The standard for approved shellfish growing waters is fecal coliform geometric mean not greater than 14 organisms/100 ml and an estimate of the 90th percentile not greater than 43 organisms/100 ml. The above table shows bacteriological results in relation to program standards.

† All samples have been verified.

TABLE 3**SUMMARY OF SHELLFISH GROWING AREAS
WATER QUALITY STUDY RESULTS**Growing Area: **BURLEY LAGOON**Sampling Station Number: **342**Classification: **Conditionally Approved**

Sample Date	Sample Time	Tide	Fcoli/100ml	Temperature	Salinity
06/05/2002	13:05	Flood	9	17	27
07/01/2002	10:57	Ebb	240	19	26
08/01/2002	10:53	Flood	2	17	28
09/03/2002	13:42	Flood	7.8	18	29
10/01/2002	12:52	Flood	1.7	14	
11/07/2002	11:07	Ebb	17	12	31
12/02/2002	12:40	Flood	14	9	29
01/09/2003	11:47	Ebb	1.7	9	27
02/11/2003	11:03	Flood	1.7	17	27
03/12/2003	09:52	Flood	49	8	16
04/09/2003	11:01	Ebb	4.5	11	27
05/08/2003	09:09	Flood	1.7	11	25
06/05/2003	09:56	Ebb	1.7	12	30
07/17/2003	08:38	Ebb	23	17	29
09/11/2003	08:11	Ebb	23	15	29
10/02/2003	10:51	Flood	2	13	30
11/25/2003	10:34	Ebb	240	8	25
12/02/2003	10:47	Flood	2	9	29
01/27/2004	09:17	Flood	2	6	27
02/03/2004	09:04	Ebb	4.5	6	20
03/11/2004	10:20	Ebb	1.7	8	26
04/26/2004	08:53	Flood	4.5	10	25
05/06/2004	09:12	Ebb	4.5	13	27
06/23/2004	08:36	Flood	4.5	18	30
07/06/2004	10:10	Ebb	11	17	28
08/05/2004	09:41	Flood	13	15	30
09/02/2004	09:30	Ebb	2	17	30
10/18/2004	09:51	Flood	170	12	29
11/17/2004	09:38	Flood	31	11	28
12/15/2004	10:23	Ebb	2	9	30
01/26/2005	08:30	Ebb	2	8	28
02/03/2005	10:32	Flood	23	7	20
03/17/2005	08:50	Flood	2	8	27
04/14/2005	09:35	Ebb	2	9	26
05/18/2005	11:09	Flood	33	14	25
06/16/2005	12:23	Flood	11	15	28
07/13/2005	10:15	Flood	13	18	26
08/11/2005	12:42	Ebb	13	17	30
09/08/2005	10:46	Ebb	49	15	30
10/20/2005	08:36	Flood	4	12	29

Number of Samples: 40

Geometric Mean: 7.5

Range: 1.7 - 240

Estimated 90th Percentile: 48

TABLE 4**SUMMARY OF SHELLFISH GROWING AREAS****WATER QUALITY STUDY RESULTS**Growing Area: **BURLEY LAGOON**Sampling Station Number: **336**Classification: **Conditionally Approved**

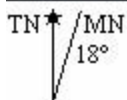
Sample Date	Sample Time	Tide	Fcoli/100ml	Temperature	Salinity
06/05/2002	13:15	Flood	13	18	26
07/01/2002	10:45	Flood	33	18	27
08/01/2002	11:04	Flood	4.5	17	28
09/03/2002	13:30	Flood	22	19	28
10/01/2002	12:43	Flood	1.7	14	
11/07/2002	10:54	Ebb	22	12	30
12/02/2002	12:30	Flood	4.5	9	29
01/09/2003	11:33	Ebb	2	9	27
02/11/2003	10:50	Flood	1.7	10	29
03/12/2003	09:41	Flood	49	8	2
04/09/2003	10:49	Ebb	2	11	25
05/08/2003	08:52	Flood	49	11	24
06/05/2003	09:45	Ebb	13	12	30
07/17/2003	08:25	Ebb	540	17	28
08/04/2003	10:54	Flood	6.8	18	30
09/11/2003	08:00	Ebb	23	15	28
10/02/2003	10:40	Flood	2	14	30
11/25/2003	10:19	Ebb	95	9	24
12/02/2003	10:36	Flood	1.7	9	29
01/27/2004	09:03	Flood	2	6	28
02/03/2004	08:51	Ebb	11	7	28
03/11/2004	10:10	Ebb	9.3	8	28
04/26/2004	08:36	Flood	1.7	9	26
05/06/2004	09:02	Ebb	7.8	13	30
06/23/2004	08:20	Flood	4.5	17	30
07/06/2004	09:57	Ebb	11	17	29
08/05/2004	09:27	Flood	4.5	16	31
09/02/2004	09:17	Ebb	2	16	30
10/18/2004	09:38	Flood	33	12	28
11/17/2004	09:20	Flood	2	11	30
12/15/2004	10:10	Ebb	6.1	9	25
01/26/2005	08:12	Ebb	13	8	26
02/03/2005	10:10	Flood	7.8	8	15
03/17/2005	08:32	Flood	7.8	8	27
04/14/2005	09:23	Ebb	1.7	9	26
05/18/2005	10:53	Flood	49	14	25
06/16/2005	12:04	Flood	4.5	15	29
07/13/2005	09:57	Flood	4.5	18	28
08/11/2005	12:56	Ebb	14	17	29
09/08/2005	10:34	Ebb	1.7	15	30
10/20/2005	08:19	Flood	23	12	27

Number of Samples: 41

Geometric Mean: 8.0

Range: 1.7 - 540

Estimated 90th Percentile: 44



Most recent five-year trend in fecal coliform pollution.

